



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,789	07/23/2003	Richard Fletcher	056754/0124941	9001
26242	7590	05/16/2006	EXAMINER	
NORMA E HENDERSON HENDERSON PATENT LAW 13 JEFFERSON DR LONDONDERRY, NH 03053			LEE, SEUNG H	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/625,789	FLETCHER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seung H. Lee	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 21 February 2006.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1-50 is/are pending in the application.  
 4a) Of the above claim(s) 16-24 and 40-48 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-10,12-15,25-34,36-39,49 and 50 is/are rejected.  
 7) Claim(s) 11 and 35 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. Receipt is acknowledged of the response filed on 21 February 2006, which has been entered in the file.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10, 12-15, 25-34, 36-39, 49, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekchian et al. (US 4,862,160, of record)(hereinafter referred to as 'Ekchian') in view of Appalucci et al. (US 5,841,350)(hereinafter referred to as 'Appalucci').

Re claims 1, 2, 25, 26, 49, and 50: Ekchian teaches an inventory data acquisition system comprising a plurality of items (20) having tags (22) wherein property of tags can be determined using frequencies (F1 and F2) serving as reference frequency transmitted by the microcomputer (16), a third frequency (F3) serving as resonant frequency measured by interacted with tags, the microcomputer determines the total number of units using F1, F2 and F3 (see figs. 1-13; Abstract; col. 3, line 8-col. 7, line 33; Claims 1-4).

However, Ekchian fail to particularly teach that the property of frequency is determined using the frequency shift.

Appalucci teaches a resonant tag (10) is detected by exposing the tag to the electromagnetic energy for causing the frequency shift (see figs. 1-3; col. 4, line 51- col. 5, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the method/apparatus for determining/detecting the property of tag using the frequency shift as taught by Appalucci to the inventory data acquisition system of Ekchian in order to activate the resonant tag to be inventoried, in fact, the property of the passive tag such as taught by Ekchian is determined by the changing of the frequency between the reference frequency and the measured frequency after the tag is been activated.

Re claims 3, 4, 27, and 28: The tag comprises six interleaved conductive arms (34, 36, 38, 40, 42, and 44) wherein property or the corresponding frequency of each tag are differed according to the length of the corresponding arms, the each arm of the tags serves as resonant elements,

Re claims 5, 6, 29, and 30: The unit with same SKU has identical tags representing same items, whereas different item with different SKU has different tags,

Re claims 7-9, 31-33: The tags are affixed to a removable item wherein the item is arranged in a stack wherein a customer/a worker can picked/removed the item from the stack, in which the plurality of items in the stack have a substantially equal spacing as shown in figure 1,

Re claims 10, 12, 34, and 36: The number of tags can be determined using signal strength or monotonic function of the frequencies of the signal wherein such

determining function also serves as a regression-fit function that is determined by empirical measurement of the numbers of tags with same tags or same frequency accordingly (see col. 5, line 37- col. 7, line 3, claims 1 and 3),

Re claims 13-15 and 37-39: The arbitrary numbers of items with tag are tested for ascertain the property of the tags wherein such properties are corresponding frequency.

***Allowable Subject Matter***

4. Claims 11 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Although, Ekchian disclose to determine the total number of items using tags affixed to the item thereon according to the frequencies, he fails to particularly teach or fairly suggest that the total number of tags can be determined using an inductance, a reference frequency, a resulting resonant frequency, and a mutual inductance between the individual tags as set forth in the claims.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-15, 25-39, 49, and 50 have been considered but are moot in view of the new ground(s) of rejection.

In response to the applicant's argument that "...the applicant measure the frequency of the received signal... determine the frequency shift of this signal in comparison to a reference signal..." (see page 7, 3<sup>rd</sup> paragraph), the Examiner respectfully provides Appalucci reference wherein Appalucci use the frequency shift as discussed in paragraph 3 above.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seung H. Lee whose telephone number is (571) 272-2401. The examiner can normally be reached on Monday-Friday, 7:30 AM- 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seung H. Lee  
Art Unit 2876  
May 12, 2006